

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1, 3-16, and 21 are pending in the present application. Claims 1, 3, 8-11, 16 and 21 are amended.

Applicants note with appreciation the Examiner's acknowledgement that certified copies of the priority documents have been received by the United States Patent and Trademark Office (USPTO); that the drawings filed on December 4, 2003 have been accepted by the USPTO; and that the references included in the Information Disclosure Statements (IDS) filed December 4, 2003, and June 25, 2003, have been considered by the Examiner.

Applicants respectfully note that an IDS was filed on March 7, 2006, and respectfully request that the reference included in the March 7, 2006 IDS be acknowledged as considered by the Examiner in the next Official Communication received from the USPTO.

Before turning to the outstanding art rejections a brief review of the present invention and the amended independent claims is believed to be in order. The amended independent claims are directed to an apparatus and method **"for simultaneously obtaining a plurality of one-dimensional images of an examination object, wherein different ones of said one-dimensional images are formed from radiation coherently scattered at different angles."**

In particular, amended independent claim 1 recites an apparatus including a radiation detector arrangement including a stack of line detector units, each line detecting unit having an elongated opening and a row of individual detector elements. The row of individual detector elements are **"arranged essentially parallel with said elongated opening for detecting different portions of said ray bundle scattered at different angles with respect to a plane**

whose normal is parallel with the extension of the elongated opening.” Further, the radiation detector arrangement recited in claim 1 “is adapted to form each one of said plurality of one-dimensional images from a signal from each of said line detector units as detected by an individual detector element,” which detect “portions of the ray bundles that are scattered at a similar angle.” Amended independent claim 16 recites a method including features similar to amended independent claim 1.

Accordingly, in an example embodiment of the present invention illustrated in FIG. 1 and 2b, the plurality of one-dimensional images are images along the radiation beam (z-direction in Fig. 1) as detected at different angles ($\beta_1, \dots \beta_M$ in Fig. 2b) with respect to said plane (the xz-plane in Fig. 1). Using the notation in Figs. 1 and 2b, each one-dimensional image may be formed from N detected signals, and the number of simultaneous one-dimensional images may be M.

Amended independent claim 10 recites an apparatus including a radiation detector arrangement including line detector units arranged in a stack extending in a second direction, each line detector unit having an elongated opening and a row of individual detector elements. The row of individual detector elements are “arranged essentially parallel with said elongated opening; and is of the kind wherein charges or photons, ... , are detected by said row of individual detector elements.” Further, the radiation detector arrangement recited in claim 10 “is adapted to form each one of said plurality of one-dimensional images from signals from a single line detector unit as detected by the individual detector elements thereof, whereby said plurality of one-dimensional images are images along said first direction as detected at different angles with respect to said plane.” Amended independent claim 21 recites a method including features similar to amended independent claim 10.

Accordingly, in an example embodiment of the present invention illustrated in FIG. 3a and 3b, the plurality of one-dimensional images are images along said first direction (y-direction in Fig. 3a) as detected at different angles ($\alpha_1, \dots \alpha_N$ in Fig. 3a) with respect to a plane (yz-plane in Fig. 1) whose normal is essentially parallel with said second direction (x-direction in Fig. 3a). Using the notation in Figs. 3a and 3b, each one-dimensional image may be formed from M detected signals, and the number of simultaneous one-dimensional images may be N.

Applicants respectfully submit that the cited references at least fail to disclose, teach or suggest the above-emphasized features of the independent claims as explained below.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 3-16 and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Komardin et al. (U.S. Patent No. 6,175,117, herein Komardin) in view of Francke (U.S. Patent No. 6,476,397). Applicants respectfully traverse this rejection for the reasons detailed below.

Komardin describes a tissue analysis apparatus aimed at providing an apparatus that makes a mammography less uncomfortable for the patient being examined. The tissue analysis apparatus includes detector elements 180 of a detector 28 as illustrated in FIG. 12 of Komardin. The Examiner acknowledges on page 3, lines 6-13 that Komardin does not disclose, teach or suggest the line detector units as specified in independent claims 1, 10, 11 and 21. The Examiner relies on Francke as teaching the specifics of the line detector units. Francke is directed to utilizing a gaseous-based parallel plate detector for detecting ionizing radiation.

However, Applicants respectfully submit that even if the above references are combinable, the proposed combination still fails to disclose, teach or suggest the specifics of the line detectors units and the arrangement of the line detector units as recited in the independent

claims. Namely, Applicants respectfully submit that the detector of the proposed combination of Komardin and Francke fails to disclose, teach or suggest a radiation detector arrangement, including “a row of individual detector elements **arranged essentially parallel with said elongated opening for detecting different portions of said ray bundle scattered at different angles with respect to a plane whose normal is parallel with the extension of the elongated opening,**” as recited in claim 1, or “a row of individual detector elements arranged **essentially parallel with said elongated opening;** and is of the kind wherein charges or photons, ... , are detected by said row of individual detector elements,” as recited in claim 10.

Further, Applicants respectfully submit that neither Komardin nor Francke, either alone or in any proper combination, disclose, teach or suggest a “radiation detector arrangement that “is adapted to form **each one** of said plurality of one-dimensional images from **a signal from each of said line detector units as detected by an individual detector element,**” which detect “portions of the ray bundles that are scattered at **a similar angle,**” as recited in independent claim 1, or “a radiation detector arrangement that is adapted to form **each one** of said plurality of one-dimensional images from signals **from a single line detector unit as detected by the individual detector elements thereof,** whereby said plurality of one-dimensional images are images along said first direction as detected at different angles with respect to said plane” as recited in independent claim 10.

Still further, Applicants respectfully submit that neither Komardin nor Francke, either alone or in any proper combination, disclose, teach or suggest “**simultaneously** obtaining a **plurality of one-dimensional images** of an examination object, wherein **different ones of said one-dimensional images are formed from radiation coherently scattered at different angles.**

In light of the above, Applicants respectfully submit that Komardin and Francke, either alone or in any proper combination, at least fail to disclose the above-emphasized features of amended independent claims 1, 10, 16, and 21.

Accordingly, Applicants respectfully request that the rejection of independent claims 1, 10, 16 and 21, as well as claims 3-15 depending therefrom be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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